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1958 CATALOGUE

VETTERLE & REINELT

Hybridizing Gardens

CAPITOLA, CALIFORNIA

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VISITORS WELCOME

February and March is the Primrose time at our Capitola grounds.

The finest collection of Tuberous Begonias in the world can be seen in our greenhouses during July and August in Capitola. Over 5000 specimens of all types and colors demonstrating all the new advances in breeding are on display, making any flower show look insignificant in comparison. More than 50,000 visitors come to view the display each year during the summer months.

Our main fields of begonia seedlings are located on Mission Street in Santa Cruz and at La Selva Beach, near Aptos. Here solid sheets of color can be seen during September and October.



Delphinium reach the height of bloom in early July at the Santa Cruz Ranch on Mission Street.

Rose form type

TUBEROUS BEGONIAS

SPECIAL SELECT TUBERS

Contrary to the practice of propagating named varieties of tuberous Begonias, we offer selected seedling tubers instead. Propagation of individual varieties is costly and slow, so that by the time a sufficient amount has been reproduced for introduction they are already obsolete as compared with seedlings. Breeding is advancing so rapidly that today's choice is the discard of tomorrow. During

flowering season we select and mark all the choicest new seedlings which are above average in size, form and color. We are offering tubers of these to connoisseurs who desire only the finest for their gardens.

Tubers—Delivery, January-March.

Large size.....\$1.25 ea.; \$12.50 per doz.

Medium size.....\$.90 ea.; \$ 9.00 per doz.





Rose form type

CONTINUED

The ultimate classical form in tuberous begonias is that resembling the roses for which we have been striving, selecting and breeding for years. The transition from Double Camellia form from which the Rose form was developed is not fully completed. However, these plants formerly listed as double camellia type are now more of a Rose form, although some percentage will still resemble the Double Camellia.

AVAILABLE COLORS

White, Pink, Rose, American Beauty, Cardinal Red, Scarlet, Dark Red, Yellow, Apricot, Orange, Flame Orange, Blush Salmons, Pink Salmons, Light Salmons, Dark Salmons.

TUBERS

Delivery, January-March.

Large size 60c ea.; \$6.00 doz.; \$48.00 per 100

Medium size 40c ea.; \$4.00 doz.; \$30.00 per 100

SEEDLING PLANTS

Available in May and June.

\$6.50 per 25; \$25.00 per hundred, FOB CAPITOLA. Due to cost of packing no orders for less than 25 accepted.

SEED

Available from December on.

Artificially cross-pollinated from the finest plants in existence.

\$3.00 per packet; \$1.50 per half packet (straight colors or mixture).

Ruffled Camellia type

TUBEROUS BEGONIAS

We developed this spectacular new form by interbreeding the old fimbriata plena with the best forms of the double camellia type. Each year new advances in size, form and quality seem to supercede the achievement of the past. They were designed primarily for cut flower purposes, but the beautiful variations of frilling, ruffling and scalloping that appears amongst these new forms made it one of the most popular group of begonias today. They are enormously vigorous and in some colors 8" and 9" flowers are quite common. In this group also are some of the most mildew resistant plants.

AVAILABLE COLORS

White, Pink, Rose, Cardinal Red, Scarlet, Dark Red, Yellow, Apricot, Orange, Flame, Blush Salmon, Pink Salmon, Light Salmons, Dark Salmons.

TUBERS

Delivery, January-March.

Large size 60c ea.; \$6.00 doz.; \$48.00 per 100

Medium size 40c ea.; \$4.00 doz.; \$30.00 per 100

SEEDLING PLANTS

Available in May and June.

\$6.50 per 25; \$25.00 per hundred, FOB CAPITOLA.

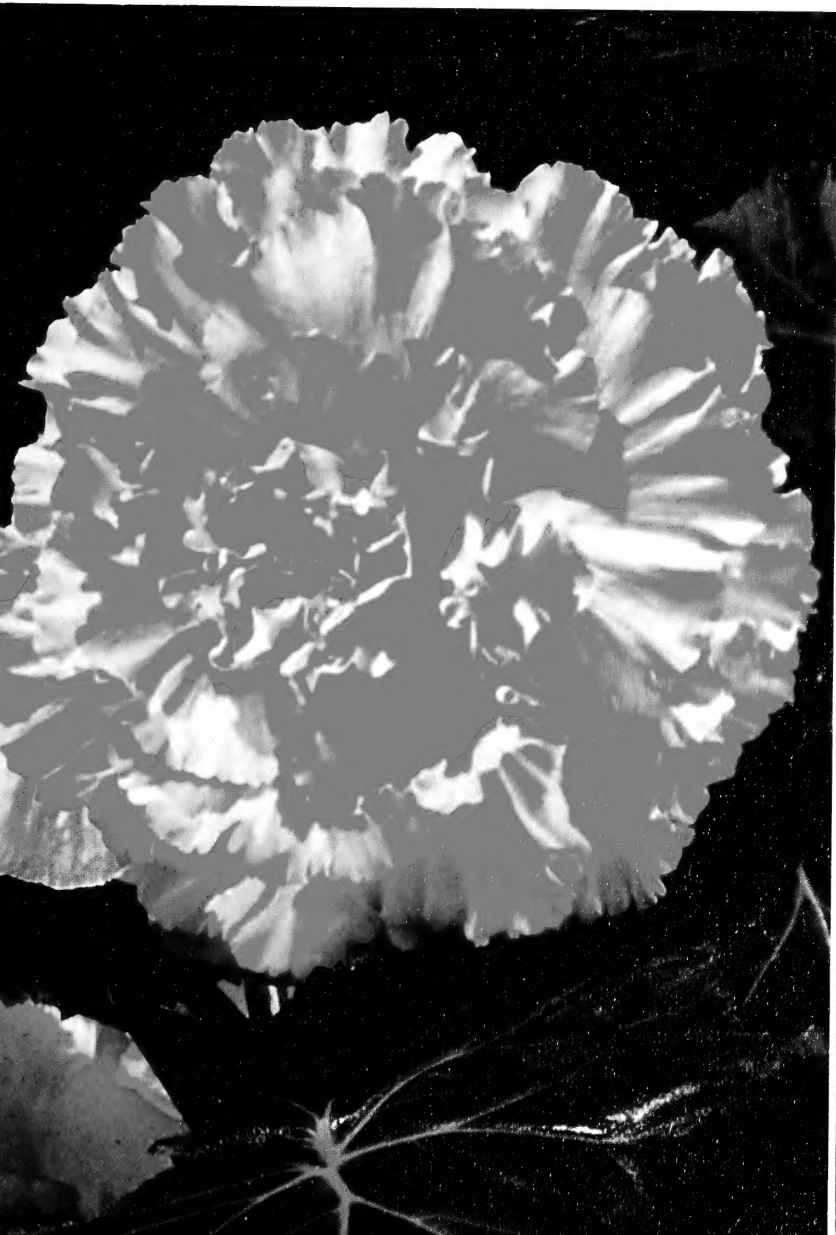
Due to cost of packing no orders for less than 25 accepted.

SEED

Available from December on.

Artificially cross-pollinated from the finest plants in existence.

\$3.00 per packet; \$1.50 per half packet (straight colors or mixture).



Ruffled Camellia type

CONTINUED

SPECIAL SELECT TUBERS

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During flowering season we select and mark all the choicest new seedlings which are above average in size, form and color. We are offering tubers of these to connoisseurs who desire only the finest for their gardens.

Tubers—Delivery, January-March.

Large size \$1.25 ea.; \$12.50 per doz.

Medium size \$.90 ea.; \$ 9.00 per doz.



CULTURE OF TUBEROUS BEGONIAS

PLANTING DORMANT TUBERS

Time and effort will be conserved if Pacific Strain tubers are planted in the starting flat after they show pink buds. The planting medium is preferably a coarse hardwood leaf mold, or an organic substitute, which will not pack and become soggy, thereby excluding air. Peat moss, holding 90 per cent of its weight in water when saturated, is not recommended as a starting medium for dormant tubers. Fill a nursery flat with coarse leaf mold, and space the tubers evenly, allowing sufficient space between tubers for heavy root development, which may be considered the most important factor in the ultimate growth of fancy begonias. Bury the spaced tubers, covering with one-half inch of leaf mold. This is a very essential step, one which we wish to emphasize strongly. Its omission will preclude the full development of roots from the tuber's base, sides, and top, as nature intended. The planted flat should be WATERED CAREFULLY, maintaining even moisture, but not soggy wetness. Place flat in strong light; shield from direct sun's rays. A warm 65° to 75° temperature will hasten growth. Every effort should be made for close, compact plant growth, and prevent any suggestion of weak, spindly growth. Plants are potted, or planted in prepared beds, if the weather is favorable, when the first two leaves have reached equal development. At this stage the roots are heavy, and will adjust to transplanting.



TRANSPLANTING MATURE PLANTS

Firstly, to consider transplanting from flat to pots. Begonias do not root deeply, and the shallow eight or nine inch azalea pots are preferred to the deeper pots. Our standard potting mixture consists of two-thirds partly rotted oak leaf mold and one-third coarse sand. Remove plant from starting flat carefully. Mix one handful of fish meal with enough potting mixture to fill the bottom two-thirds of pot, place plant in pot, fill in around root mass. Firm, and finish by covering top of root mass lightly with a quarter inch of potting soil. WATER CAREFULLY.

The prime soil consideration for outdoor beds of Pacific Strain tuberous begonias is perfect drainage. One-third leaf mold, one-third sand, one-third sandy loam is good. The addition of one-half sand to existing garden soil will generally drain well. If rotted cow, or steer manure is added to the bed, it should be mixed thoroughly a month in advance, and watered several times. In planting, place a handful of fish meal under the root mass, and barely cover the root mass with soil. Soil should not be pulled in contact with plant's stalk. The points of all leaves should face the front of bed, presenting a uniform appearance to finished planting. Location of planting area in relation to the sun is important, and can spell success or failure. They will not perform satisfactorily in complete shade, nor in a bright, sunny spot. If too shaded there will be little or no bloom, but lush plant growth. Excess sun will stunt and burn. The correct degree of light and shade will produce strong, compact plants, and profuse bloom. Suggested locations include the north side of buildings, light tree shade, lath houses. After transplanting, the most important consideration is CAREFUL WATERING until new roots form and growth is evident.

DIGGING AND DORMANT STORAGE

Plants should be allowed to continue growing through November, if possible. During this late period the tuber increases in size and stores up energy for next season. Pot plants may be forced into dormancy at any time by withholding water. Bedded plants may be dug with a ball of soil, placed in a dry shed if necessary to force dormancy. In the Eastern section where chance of early frost may injure the plants, they can be lifted with large amount of soil and set in basement or frostless place where they gradually will mature. The first light frosts will not harm the tuber. When foliage drops, and all growth breaks free of the tuber, wash soil free of tuber and cure in the hot sun for four days, or longer, until tuber is hard and dry. Be sure to remove all particles of the old stem from tuber. If this is neglected their decay will destroy the tuber. Store in open flats in a cool, dry place until evidence of growth is noted, usually in February or March. Remove from storage, and handle as outlined under "Planting Dormant Tubers."



Rose form

PICOTEE

ROSE FORM PICOTEE SHADES

The most spectacular advance in tuberous begonias is the transformation of the little old marmorata into the large Rose Form Picotee of today, a process of twenty years breeding. Of all types, this group brings the highest proportion of uniformly fine form when grown from seed. The demand has risen in proportion to the advances in quality and has made them the most popular of all types. Regardless that we grow larger quantities each year, we never seem to satisfy the demand.

SPECIAL SELECT

During flowering season we select and mark all the choicest new seedlings which are above average in size, form and color. We are offering tubers of these to connoisseurs who desire only the finest for their gardens.

Tubers—Delivery, January-March.

Large size \$1.25 ea.; \$12.50 per doz.

Medium size \$.90 ea.; \$ 9.00 per doz.

AVAILABLE COLORS

Red Shades, Pink-Rose Shades, Salmon Shades, Apricot.

TUBERS

Large size 60c ea.; \$6.00 doz.; \$48.00 per 100

Medium size 40c ea.; \$4.00 doz.; \$30.00 per 100

SEEDLING PLANTS

Available in May and June.

\$6.50 per 25; \$25.00 per hundred, FOB CAPITOLA.

Due to cost of packing no orders for less than 25 accepted.

SEED

\$3.00 per packet; \$1.50 per half packet (straight colors or mixture).

PLANTS

[illegible]

SEEDS

[illegible]

PARCEL POST RATES

Zones

PLEASE USE THIS ORDER FORM

VETTERLE & REINELT

Hybridizing Gardens

CAPITOLA • CALIFORNIA

Received _____ Filled _____ By _____
(Do not write on above line)

Date _____ Amount Enclosed \$ _____
(Please Print Plainly)

NAME _____

ADDRESS _____

Express office if different from mailing address _____

KINDLY LIST TUBERS, PLANTS AND SEEDS SEPARATELY

QUANTITY	KIND OF TUBERS	COLOR	PRICE

Weight in Pounds	AIR PARCEL POST RATES							
	Local	1-2 Up to 150 miles	3 150 to 300 miles	4 300 to 600 miles	5 600 to 1,000 miles	6 1,000 to 1,400 miles	7 1,400 to 1,800 miles	8 Over 1,800 miles
1.....	\$0.18	\$0.23	\$0.23	\$0.24	\$0.26	\$0.28	\$0.30	\$0.32
2.....	.20	.27	.29	.31	.36	.40	.46	.51
3.....	.21	.31	.34	.38	.45	.52	.61	.69
4.....	.23	.35	.39	.45	.54	.64	.76	.87
5.....	.24	.39	.44	.52	.63	.76	.91	1.05

Zones

Weight in Pounds	Zones					
	1-2-3 Up to 300 miles	4 300 to 600 miles	5 600 to 1,000 miles	6 1,000 to 1,400 miles	7 1,400 to 1,800 miles	8 Over 1,800 miles
Over 1/2 to 1.....	\$0.60	\$0.65	\$0.70	\$0.75	\$0.75	\$0.80
2.....	1.08	1.15	1.26	1.39	1.47	1.60
3.....	1.56	1.65	1.82	2.03	2.19	2.40
4.....	2.04	2.15	2.38	2.67	2.91	3.20
5.....	2.52	2.65	2.94	3.31	3.63	4.00

SEEDS ... BULBS ... *Sent prepaid.* Add 50c packing charge on orders of less than 1 dozen bulbs.

ALL PLANTS ... Are shipped by Parcel Post. Allow 2 pounds for each dozen. Carriage charge payable by purchaser.

To insure better delivery we suggest air parcel post in Zones 6-7-8.

Special delivery will expedite shipment. Add 35c up to 2 lbs., 45c up to 10 lbs., 60c up to 100 lbs.

Please PRINT or write your orders plainly and if writing us use separate sheet of paper.

PLEASE NOTE: *Begonia Tubers* available January to March. *Begonia Seedlings* available end May-June. *Begonia Seeds* available December 1st. *Delphinium Plants* available March-June and September-November. *Delphinium Seed* available fresh crop July. *Primrose Plants*, Specimen Divisions available June to September. *Primrose Seedlings* available February and March. *Primrose Seed* available fresh crop July. Limited supply.

TUBERS and PLANTS are charged at unit prices if labeled separately as to color, etc.

If assorted at dozen rate will be shipped assorted.

In the event of any inquiry concerning your order, kindly give fullest particulars possible, as with our hundreds of orders this will help us and expedite replies. *All stock guaranteed true to description but no guarantee for the result of growing over which we have no control.*

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Begonias

FEEDING

For pots or beds a definite feeding program will reward the grower with stronger growth, and increased bloom. After transplanting, when active growth is observed, commence the following routine: Feed one tablespoon of California Liquid's 8-8-4, mixed in one gallon of water once a week until plants begin to flower. After plants begin to flower switch to this combination: one tablespoon of Atlas Fish Emulsion, combined with one tablespoon of California Liquid's 2-10-10 in one gallon of water once a week. Cease to fertilize by the end of September. The use of the first combination is intended to induce strong plant growth; the latter combination will harden cell structure, strengthen flower stems, provide an abundance of firm, highly colored blossoms, and store energy for the tubers' resting period. The individual must judge when plants are under fed, well fed, or over fed.

Maintain a deep green color, and a meaty thickness of leaf. A slightly turning under of the leaves is no cause for alarm, a definite "roll" indicates over feeding. Beware of a sickly yellow green, the sign of starvation. The current season's care and feeding will be reflected in the following season's flowering.

CULTURE OF HANGING BASKET BEGONIAS

Pacific Strain basket begonias have the same cultural requirements as already outlined, with minor exceptions. For the best results the larger tubers, having many flowering branches, will stage a more lavish show. Basket tubers are more sensitive to excess moisture than the standards. For this reason do not over pot and use shallow containers for planting. Baskets should be hung in a still, wind free location. Basket tubers, which do not show more than two branches at the beginning of the season, should have the tips pinched off when the first flower bud appears. This will form a fuller basket. **WATER CAREFULLY** until the plant is well rooted, and then never allow plant to become dry, or in need of fertilizer.



SPECIAL SELECT TUBERS

During flowering season we select and mark all the choicest new seedlings which are above average in size, form and color. We are offering tubers of these to connoisseurs who desire only the finest for their gardens.

Tubers—Delivery, January-March.

Large size \$1.25 ea.; \$12.50 per doz.

Medium size \$.90 ea.; \$ 9.00 per doz.



DOUBLE HANGING BEGONIAS

Its hanging habit, with great masses of blooms, makes them favored for the decoration of greenhouses, open verandas or sun porches, where they can be protected against strong winds and light. We have been improving this type by interbreeding them for a number of years with the double Camellia type for the size of flower and variety of color. Our this year's offerings are further advanced, combining medium-sized flowers and good hanging habit.

AVAILABLE COLORS

White, Pink, Rose, Crimson, Salmon, Yellow, Apricot, Orange, Scarlet, Red Salmon.

TUBERS

Delivery, January-March.

Large size 60c ea.; \$6.00 doz.; \$48.00 per 100

Medium size 40c ea.; \$4.00 doz.; \$30.00 per 100

SEEDLING PLANTS

Available in May and June.

\$6.50 per 25; \$25.00 per hundred, FOB CAPITOLA.

Due to cost of packing no orders for less than 25 accepted.

SEED

\$3.00 per packet; \$1.50 per half packet (straight colors or mixture).

Pacific Strain Tuberous Begonia seed is sown in January or February. The preferred seeding medium is a partially rotted hardwood leaf mold. This should be sterilized with Larvicide, to insure destruction of all harmful organisms. Screen the sterilized leaf mold through a one-half inch mesh screen, placing a thin layer of the coarse material on the bottom of a three inch deep nursery flat, or shallow box, and fill to a depth of one inch with the screened leaf mold. Firm lightly, and with a fine spray moisten thoroughly with sterilized water. As an extra precaution sterilized water should be used prior to germination, and for four weeks after seedlings appear. Coating the seed with Rootone will make the sowing of seed easier. Broadcast seed thinly on the moist leaf mold. Do not cover seed, or firm leaf mold. Immediately seal tightly with a sheet of glass, and preclude all light with a sheet of paper. A constant minimum top and bottom temperature of 74° will insure an even germination within 8 days. Moisture should be checked every other day, being especially watchful on the 6th and 7th day. Paper must be removed when seed coat is observed to be splitting, even before the green of emerging cotyledons is evident. The glass should at first be raised slightly with a match stick, and air admitted gradually, removing glass completely within a week or ten days. Seedlings must be kept evenly moist with a fine spray, and given sufficient light and air to maintain compact plant growth. Stagnant air and over watering will cause Damp-Off. A spray of one tablespoon of Zerlate to one gallon of water will control this disease. The consistent feeding of Atlas Fish Emulsion at one-third recommended strength, bi-weekly, will give the tiny plants stamina.



TRANSPLANTING AND SEEDLINGS

Transplanting is accomplished before plants crowd one another. The first transplant is usually made within eight weeks of sowing, and for heavier root systems, a second in sixteen weeks. For transplanting, fill flat with the same leaf mold, unscreened. Do not pack; leave material loose and fluffy. Continue to feed fish emulsion bi-weekly. **WATER CAREFULLY**, maintain even moisture, avoid soggy wetness. Seedlings will be ready for potting, or planting out in May. Recommendations for light conditions, and proper potting and outdoor planting methods are outlined under tuber culture, and will apply for seedling plants.

CARE, INSECT AND DISEASE

Begonias are comparatively free of diseases. Powdery mildew is the No. 1 enemy that appeared a few years ago, and should be regularly controlled by spraying with "Mildont" or dusting with sulphur when first signs of it appear. If not controlled it will spread rapidly and destroy the planting for the season.



DELPHINIUM

Delphinium can be grown successfully in every part of the United States. In the north, where cool weather and high moisture prevail they will be perennial, but become shorter lived as they go South, with increased temperatures during summer, and finally have to be treated like annual in Southern regions and Florida. Seed sown in March or April, in light mixture of soil, covered slightly with coarse leaf mold and kept continuously damp and shaded, will germinate in approximately 10/14 days. When second leaf develops, transplanted in flats or open frames they will grow rapidly if shaded against strong sunshine for the first two or three weeks. Planted in a permanent place, preferably in a light loamy soil, which has been heavily enriched with decayed manure, and an addition of bone meal, they will establish rapidly and form flowering plants by September. The following Spring, when the new shoots come through the ground, select only two or three of the largest, and

break the rest off. Addition of quick acting fertilizer, such as ammonium phosphate, will force the growth very rapidly, and according to richness of soil one can get beautiful show specimens to bloom in late Spring. After the flowering, water should be somehow withheld and the flower spikes cut off, leaving the foliage standing until new growth commences again from the ground. When the new shoots are advanced the old ones can be cut out, and another heavy feeding of quick acting fertilizer applied. In this manner you can have two good flowering seasons in one. In southern regions it is preferable to sow the seed in July/August, so that the plants can be in permanent location in October. They will develop large root system during winter and give very fine show in early March/April. The main factors for good success are sunny location, rich loamy soil, and continuous supply of moisture during the growing season.



Pacific Strain of

DELPHINIUM HYBRIDS

The names of our Delphinium series, with the exception of the blues, which have descriptive names, have been chosen from Tennyson's "Idylls of the King."

The Pacific Strain of delphinium has been in commerce for 25 years now and has become a standard for the highest quality in delphinium all over the world. Instead of making extravagant claims, we would like to let our flowers speak for themselves when you grow them.

LANCELOT SERIES

A clear lilac self with white bee. A rare color in Delphinium and one of the most beautiful. It has well-balanced spikes and carries large flowers of fine round form.

GUINEVERE SERIES

A clear, pink-lavender self, with white bee; with very large individual flowers averaging up to three inches in diameter. This is a true exhibition type and a beautiful garden plant.

CAMELIARD SERIES

Bicolor lavender with white bee, possessing classical perfection of form of the individual flowers, which are very round and attain very large size, averaging three inches in diameter. Beautifully balanced spikes, combined with excellent growing habits.

KING ARTHUR SERIES

This is still one of the most brilliant Delphiniums we have so far developed. The color is a rich, royal purple, with a velvety texture and large white bee, and the beautifully formed, long spikes are carried on thin, woody stems.

BLACK KNIGHT SERIES

The darkest violet. Individual flowers two and one-half to three inches in diameter; of beautiful round form, with heavy velvety texture, which gives the color luminosity and vividness not seen before in Delphinium. Very long, well-formed spikes; a true show flower with black bee.

ASTOLAT SERIES

Color variations extend from pale blush through all shades of lilac pink to deep raspberry rose with large fawn and black bees for contrast. The entire range is pictured on these pages.

ROUND TABLE SERIES

As the name implies, this represents all of the color combinations of the Knights and their Ladies which will eventually be introduced. This year some three hundred different crosses were used to make up this group, combining all the newest color developments and possessing size that will make them invaluable for show purposes.

The British Delphinium Society extends an invitation to join and receive its year book for \$2.50 per year. We shall gladly accept the amount and forward it to England for those who wish to join. Or send direct to John Clemson, 4 Holmsdale Rd., Streatham S.W. 16, England.

Contrary to the popular practice of naming individual plants, our aim is to produce a group of individual plants resembling each other as closely as possible, keep interbreeding them until the progeny brings a high percentage of specimens true to description, and then introduce it as a named series. In this manner we can offer new progressions of each series each year as the progeny always supercedes the parents.

SUMMER SKIES SERIES

Light, heavenly blue of a summer sky with white bees representing the fleecy clouds; a color long sought in the large hybrid Delphinium. They come almost 100% true to color from seed, with such a uniform growth that many experts who saw the planting last spring at our nursery, thought they were propagated from cuttings and could scarcely believe that they were seedlings. As a class this is the finest blue Delphinium today in existence.

BLUE BIRD SERIES

A true blue Delphinium has been the hardest thing to produce and we have been reserving the name Blue Bird to signify our best achievement in this color. We can safely recommend this series as being the clearest medium blues, with white bees. They not only come true to color but carry well-formed, round flowers 2½ inches in diameter, on very long, graceful spikes. The habit is all one could desire in modern Delphinium and this series sets a new standard in blues of today.

BLUE JAY SERIES

Every Delphinium lover seeks the true blue color which is so rare in nature and so difficult to obtain. These series are our bid toward attaining it. The color is striking, clear medium to dark blue; very intense and alive, with dark, contrasting bee.

BLUE MIXTURE

Besides the named blue series we can supply a complete mixture of blues ranging from lightest to darkest blue with white, fawn and black bees. Each shade when stabilized will eventually be named, but at present all new crosses for that purpose are blocked into one mixture containing all the above series and a great many unusual new shades of blue.

GALAHAD SERIES

Our greatest achievement in giant whites, fully worthy of its name, which possesses all the qualities one expects to find in a fine Delphinium. The standard attained in this series is perhaps responsible for the wide popularity it met, ranking in demand next to the blues. The clear white flowers, with white bees, are of large size, reaching often three inches in diameter, combined with glistening, heavy texture.

PERCIVAL SERIES

A companion to the Galahad Series, of equally good quality. The large, glistening white flowers with strongly contrasting black bees are beautifully spaced on long, tapering spikes. Very vigorous and free growing habit.

PRICE OF SEED

Selected from finest new specimens, and of highest quality obtainable.

\$2.50 per packet (over 400 seeds)

\$1.25 per half packet (over 200 seeds)

Collection of any series on pages 12 and 13:

5 packets or 10 half packets \$10.00



ASTOLAT SERIES

DELPHINIUM PLANTS

During March and April and September and October we are offering *strong, young plants*, in twelve assorted shades, as marked from cross-pollenized seed. Transplanted, they will grow rapidly on and bring far better results in a shorter time than the old clumps. We prefer distribution of young seedlings rather than the one- or two-year-old clumps, which very seldom bring good results, as they are quite exhausted, and it takes a year at best to get them re-established, during which time the flowers are not at their best. Young seedlings will produce show specimens within four or five months after planting and continue blooming for several years. In California interior valleys where the climate is too warm, autumn planting, September and October, is preferable. Plants having time to establish good root systems during winter will bring beautiful spikes in early spring. Cooler regions will give good results from both autumn and spring plantings, except in heavy, cold soils, where spring planting is preferable.

SEEDLING PLANTS, FOB Capitola

\$3.50 per dozen, \$26.00 per 100

Orders for less than One Dozen not accepted

PLANTS

Available in the following colors:

White, Yellow and Gold, Bronze Blends, Flame-Scarlet, Dark Red, Carmine-Rose, Pink and Pastel Blends, Light Blues, Dark Blues, Violet Blends.

Delivery . . .

February-March with flowers on, September-October without flowers.

Price . . .

\$5.00 per doz.; \$40.00 per hundred, FOB CAPITOLA.
No order less than one dozen accepted.



As the Polyanthus group is the most hardy and easiest to grow of all the Primrose family, succeeding in practically every climate, we have concentrated our work on improving this particular type. Twenty years of intensive breeding have brought a wider and clearer color range, taller stems, and larger size of individual flowers and flower heads than we dreamed was possible. Over 100,000 seedlings are grown annually for selection, one per cent of which is retained for seed production. In this manner, interbreeding only the very finest of the new seedlings and growing a new generation each year, we have been able to develop a strain that is above any competition today.

The most outstanding new seedlings each year are lifted from field outdoors, potted up and transferred into greenhouses, where they are carefully cross pollinated. While this method is very costly it is the only one that insures the highest quality possible. **NATURALLY** the quantity is very limited and we recommend it only to those who wish to grow the finest.

SEED

Available colors:

White, Rose, Crimson Rose, Scarlet, Dark Red, Yellow, Bronze.

Price . . .

\$4.00 packet; \$2.00 per half packet.

Blends . . .

Pink Blends, Pastel Blends, Blue Shades.

Price . . .

\$5.00 packet; \$2.50 per half packet.

Complete Mixture . . .

\$4.00 per packet; \$2.00 per half packet.
Full packet contains over 350 seeds.



Begoniás



TUBEROUS BEGONIAS with their majestic blooms and lush foliage are truly the aristocrats of the Western garden. A native of the tropical areas of Central and South America, the Tuberous Begonia was named for a French monk, Michel Begon of Martinique, who collected and described many of the original plants in the 19th Century.

The Tuberous Begonia was first found in the higher altitudes of the tropics where it enjoyed a cool climate and thrived in a soil abundant with humus. After years of breeding, English and American hybridizers have developed large double flowers and have successfully blended the original colors of white, red, rose and yellow to give us today's assortment of brilliant tones and hues.

Tuberous Begonias thrive in the humid climate along the West Coast. They want a moderate daytime temperature with morning sunlight or filtered sunlight, and cool nights—conditions so very similar to their native habitat. Today most gardeners can be assured of success in growing Tuberous Begonias. Even residents in the Northern states—all the way from the Rockies to the East Coast—can grow Tuberous Begonias with amazing results by providing the proper humidity and temperature.

Tuberous Begonias can be grown (a) from seeds started in January, (b) from tubers which begin to sprout about March-April, (c) from seedlings purchased from nurseries about April-May, or (d) from cuttings. On the West Coast seedlings or tubers are recommended. For East of the Rockies area, tubers are preferable because flowering starts about June and continues until October; seedlings start to bloom later but continue sometimes into November.

Tuberous Begonias need a rich light soil—from the neutral to the acid side—but with good drainage. For potted or outdoor culture, an ideal mix consists of coarse sand, leaf mold or compost, and well-rotted manure in equal parts—thoroughly mixed and, if possible, composted for 3 or 4 months before using. Avoid mulch of peat moss or manure around stem of plant.

Tubers should be planted when small pink spots appear at the top, about March or April. They should be placed in flats in a mixture of $\frac{2}{3}$ leaf mold and $\frac{1}{3}$ sand—or if leaf mold is not available— $\frac{2}{3}$ peat moss and $\frac{1}{3}$ sand. Bury the tuber about $\frac{1}{2}$ "—fine roots form on top of the tuber, too. Water thoroughly, then keep the soil mixture moist but never soaking.

When plants are about 3" high and have formed their first two leaves, they may be transplanted into pots (preferably about 8" size) or directly into the ground; place tuber about 1" below surface of medium and point leaves in direction that flowers will ultimately face.

Tuberous Begonias are heavy feeders. They need a complete and balanced diet to produce an abundance of lush, succulent growth and a profusion of blooms in a single season. ATLAS FISH EMULSION FERTILIZER, containing 22 trace elements and plant food essentials, will supply all the nutrients and minerals necessary to attain this perfection. To sustain excellent growth, sturdy foliage texture, intense color and profusion of blooms during the entire season, use 2 tablespoons of ATLAS FISH EMULSION FERTILIZER per gallon of water every 3-4 weeks or 1 tablespoon per 1 gallon of water every week.

They like to be moist and cool. Water cautiously after transplanting until well established and growth commences. Watering in the morning is best, and overhead watering is advisable when plant is not in bloom; a mist spray is highly beneficial during the hot dry summer months. Tuberous Begonias have shallow roots and must not be allowed to dry, yet a waterlogged condition will quickly cause a rotting of the roots and stem.

Tuberous Begonias are attacked by a minimum of insects and have had few diseases. The past few years, however, they have been subject to mildew which can be controlled by dusting or spraying with a reputable fungicide recommended by your nurseryman.

Tuberous Begonias require proper care, watering and feeding, will grow best in the semi-shaded part of the garden, patio, lathed area, under trees or along north side of the house.

ATLAS FISH FERTILIZER CO.

#1 Drumm Street, Dept. VR
San Francisco 11, California

- | | | | |
|---------------------------------------|--------|--|--------|
| <input type="checkbox"/> Pint ATLAS | \$1.00 | <input type="checkbox"/> 1¼ lbs. Fish Meal | \$1.15 |
| <input type="checkbox"/> Quart ATLAS | 1.90 | <input type="checkbox"/> 5¼ lbs. Fish Meal | 3.00 |
| <input type="checkbox"/> Gallon ATLAS | 6.25 | | |

POSTAGE PREPAID

Name

Address

City

State

FISH EMULSION FERTILIZER

General Directions

STANDARD DILUTION—OUTDOOR plants: 1 tablespoon ATLAS per 1 gallon water once a month. **HOUSE plants:** ¼ teaspoon ATLAS per 1 quart lukewarm water every 10 to 14 days.

HOW TO APPLY: Mix in bucket, sprinkling can, Gro-Gun, hose syphon (15:1 syphon — 1 Pint ATLAS per 2 gallons water in pail). **HOW MUCH:** Enough dilution to saturate soil to reach root system; an amount about equal to a customary watering. **TRANSPLANTING:** 1 teaspoon per 1 gallon water to give plants an immediate start, to minimize shock and "damping off."

Specific Directions

FLOWERS (annual and perennial), ROSES, SHRUBS: 1 tablespoon per gallon water monthly during growing and blooming season.

CAMELIAS, AZALEAS, RHODODENDRONS, similar acid-tolerant plants: 1-2 tablespoons per gallon water; start feeding when blooming ceases as growth resumes, then monthly for 3-4 months.

CHRYSANTHEMUMS: 2 tablespoons per 1 gallon water every 2 weeks from about mid-April to mid-September.

DAHLIAS: 1 tablespoon to 1 gallon water; first feeding when 6" high; wait until buds form, then feed every 2 weeks.

FUCHSIAS: 1 tablespoon per 1 gallon water, twice a month during growing and blooming season.

ORCHIDS: 1 tablespoon per 1 gallon water; once a month for adult plants, twice a month for seedlings.

TUBEROUS BEGONIAS: 2 tablespoons per 1 gallon water every 3-4 weeks OR 1 tablespoon per 1 gallon water every week; start feeding when 4" high and cease about September.

AFRICAN VIOLETS, FERNS, IVY, OTHER HOUSE PLANTS: ¼ teaspoon per 1 quart lukewarm water; once every 10-14 days.

VEGETABLES, SHRUBS, BERRIES: 1 tablespoon per 1 gallon water, once a month during growing season.

TREES (fruit, shade, deciduous): 1 pint to 1 quart ATLAS per tree per year; write for detailed information.

LAWNS AND DICHONDRA: 1 pint per 30 gallons water covers 300-400 square feet; feed 2 or 3 times a year.

ATLAS—the original "FISH EMULSION"

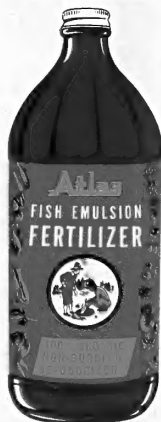
- **100% ORGANIC**—derived from sea-going fish.
- **SAFE—NON-BURNING**—will not harm foliage.
- **EASY TO USE**—dilutes instantly. Feed as you water.
- **ECONOMICAL**—pint makes 32 to 96 gallons.
- **LONG-LASTING**—adheres to the soil particles.
- **WATER-SOLUBLE**—easily assimilated by plants.
- **CONTAINS 22 TRACE ELEMENTS** and plant food essentials needed for hydroponics.
- **COMPENSATES** for soil deficiencies with nutrients needed for a balanced diet.
- **FEEDS** soil bacteria which convert humus to food.
- **PREFERRED BY EXPERTS — COMMERCIAL GROWERS — HYBRIDIZERS.**

COMPLETE—BALANCED—ORGANIC PLANT FOOD

ATLAS FISH EMULSION FERTILIZER

1 DRUMM STREET

SAN FRANCISCO 11, CALIF.





CULTURE OF PACIFIC STRAIN POLYANTHUS PRIMROSES

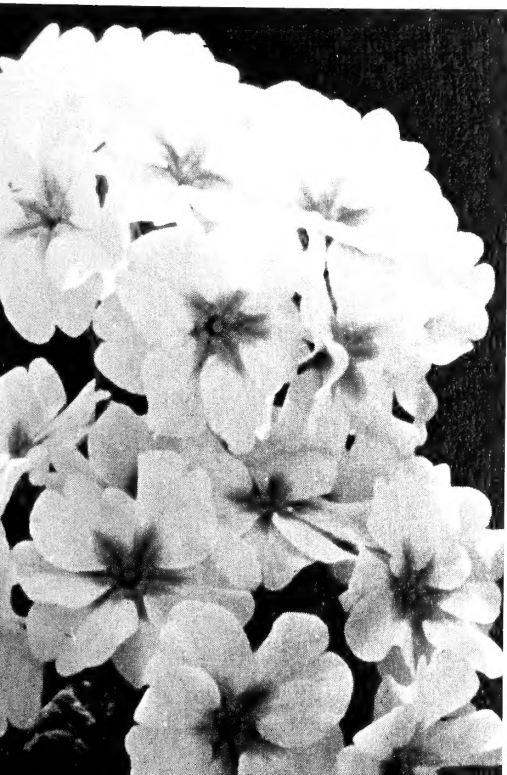
SOWING SEED

Seed of Pacific Strain Polyanthus primroses can be sown at any time of the year. In the East March or April sowings in frames will provide strong seedlings for September bedding. California and mild sections can sow in June, bedding seedlings in October. Sow seed in flats, or open beds which can be shaded and protected from wind. The best soil is one rich in organic material and light in texture. One-half leaf mold and one-half sandy garden soil is satisfactory. Cover seed lightly with leaf mold or other light material. Vermiculite is a good, light cover. Moisten flats or beds thoroughly, and cover with burlap to prevent drying out. Do not allow flats or beds to become dry at any time

during germination, or the percentage of seedlings will be disappointing. Seed will germinate within two to three weeks. Maintain moisture, and shade from the sun's rays.

TRANSPLANTING

Transplant in six to eight weeks in a soil previously enriched with old cow or steer manure, continuing to shade. In the East a light mulch will prevent frost heaving. Additional feeding of complete fertilizers before flowering is required for vigorous plants. When two years old, divide and re-plant in fresh soil. Pacific Strain Polyanthus primroses are hardy in every state in the United States.





A RAINBOW OF OCTOBER COLORS IS ILLUSTRATED IN PART OF OUR 14 ACRE LATH HOUSE OF BEGONIA SEEDLINGS AT LA SELVA BEACH.



VETTERLE & REINELT

Hybridizing Gardens

CAPITOLA, CALIFORNIA

The Pacific strain of polyanthus primroses and delphinium hybrids have been consistent winners in all flower shows when entered, particularly those of Great Britain and New Zealand.